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REPORT

ON THE

Illinois State Museum of Natural History

AT

Springfield, Illinois

A. R. CROOK, Ph. D., Curator.

JANUARY, 1907

SPRINGFIELD, ILL.:
PHILLIPS BROS., STATE PRINTERS,
1907.

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I16r
1906

Museum of Natural History.

STATE OF ILLINOIS,

SPRINGFIELD.

BOARD OF TRUSTEES.

CHAS. S. DENEEN, *Governor.*

JAMES A. ROSE, *Secretary of State.*

FRANCIS G. BLAIR, *Supt. of Pub. Instruction.*

A. R. CROOK, *Curator.*

MISS FANNIE FISHER, *Ass't Curator.*

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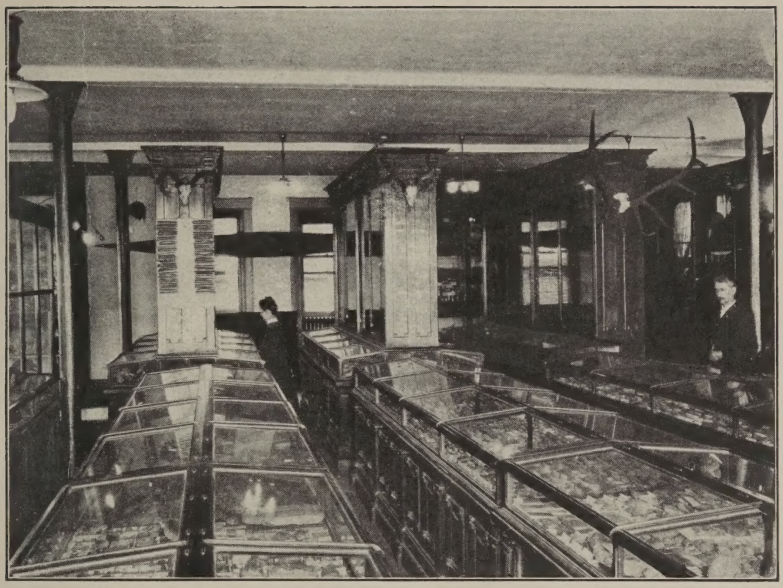

General View of the Museum.

Insect Cases and Relief Map.

REPORT OF THE CURATOR.

To the Honorable Governor Charles S. Deneen, and Board of Trustees:

GENTLEMEN—I beg herewith to present a statement of the condition and needs of the museum, to call attention to some points in other institutions of like character, and to outline work which seems to promise usefulness.

The museum contains a large amount of valuable material and represents the work of five curators and their assistants for a period of more than fifty years. It is a valuable heritage.

At present it is not possible to state the money value of the collections, since a large part of the materials are inaccessible and it has not appeared to be advisable to undertake the task of inventory, since it would be impossible to do so with any completeness. However, the specimens now on exhibition in the museum are worth many thousands of dollars. Among them are materials that could not be purchased and for that reason their value could not be stated.

The writer is pleased to report that upon his assumption of the duties of the office September 15, 1906, he found that the specimens were in a clean, well kept condition, provided with written labels, and contained in cases which are good for protection and preservation.

The different departments of natural history are about equally well represented. A cursory view shows that good judgment has been used in the acquisition and display of materials, so that the animal and mineral kingdom are about equally represented. The botanical specimens are not on exhibition, though the museum contains a Herbarium which represents a great amount of labor.

There are two cases exhibiting about four thousand shells; one case of fish containing specimens in alcohol, stuffed specimens, skeletons, and well made casts, together about one hundred and fifty examples; good corals and sponges; three cases of birds, containing about a thousand well stuffed specimens representing especially the birds of Illinois; a good collection of birds' eggs; one case containing about eighty mammals, stuffed specimens and skeletons; a fair collection of minerals and rocks; and a very perfect collection of invertebrate fossils. Archaeology is represented by samples of pottery, arrow heads, axes, and sample chipped instruments.

LACK OF SPACE MOST PRESSING NEED.

The space at the disposal of the museum is so small that a large part of the minerals, rocks and shells, have not been moved to the

arsenal. Five hundred and seventy (570) drawers each containing possibly one hundred specimens, that is probably fifty thousand specimens, are in the basement of the State house exposed to misuse by chance visitors or workmen who have little idea of their value.

This is the worst feature in the present condition of the museum, namely, that a part of the museum is not only wholly inaccessible, but in danger of dissipation.

Another feature is that the material in the one museum room (60 by 50 ft.) is so crowded as to permit neither of scientific nor artistic arrangement. Most of the cases are only two feet apart, leaving aisles so narrow that visitors can with difficulty pass between them, and lack space enough for even properly seeing the specimens. In the mammal case are eighty-seven specimens, while two of the largest animals would be enough to occupy the case, that is, there are forty times too many specimens in the case. In one of the fossil cases are three hundred and forty specimens. Half of that number are sufficient to fill the case. Four of the cases which are high enough in themselves have others placed on them so that the specimens on the upper shelves cannot be seen. All of these difficulties are unavoidable because of lack of room.

The Work Room.

There should be some room where determination, mounting and preparation and the general work incident to a museum could be performed. There is absolutely at present no space for such work.

The Library.

Some rude cases have been pieced together and in them have been placed the books which last winter were crowded together on the floor and covered with canvas in the vain hope of protecting them from water leaking through the ceiling. These books constitute the working library of the department. Some of them cannot be found elsewhere in this part of the country and are rare and valuable. Where they now are they are in danger of being completely ruined and should at the earliest moment be removed to a place of safety and accessibility and provided with good cases. It appears that none of the pamphlets which have accrued to the library have been bound. Out of the six thousand pamphlets possibly something more than half are of such useful and valuable nature that they should be provided with simple binding at least, such as would protect them and make them accessible. The library contains about two thousand bound volumes. The most pressing need is in the line of books of reference. Successful work can be carried on in the institution only with the aid of some good literature on the subjects handled.

The library has never been catalogued.

Other Museums.

Among the two hundred and forty-three American museums with which I have some acquaintance are all gradations from those of

very humble surroundings to those of the greatest excellence. Their number and equipment argue strongly for the need and value of such institutions. They are for the most part maintained and conducted by states, societies, universities or individuals. When a wise and successful business man gives a million dollars to a cause or institution that cause or insttiution must represent something worth while. All over the United States, public spirited citizens have been endowing museums inasmuch as they have appreciated the great value of such institutions for the entertainment and enlightenment of the people.

More than twenty states have museums, some small and unimportant, others well conducted and valuable. For example, New York has more than one million specimens in its museum at Albany; Pennsylvania has just established a handsome new museum; Ohio with already fifteen thousand square feet of museum space is to have a new building in the near future; Alabama, North Carolinia and Virginia have museums "unsurpassed in the south."

According to size, population and wealth, Illinois should have a museum much better and larger than that which it at present has. Ranking third in wealth, third in population and third in mineral production, it should not rank tenth in its museum.

The Kind of Museum Desirable.

The State has left the log house period in architecture and has reached the time of well-built houses, and so the museum should not be of the old fashioned type characteristic of a time when collections were more or less of the nature of heaps of odds and ends stored in a garret, dust covered, unidentified, unclassified and undescribed. It should be rather an exponent of the modern museum method which was defined by Dr. Goode, one of the greatest of museum workers in this county, when he said, "A museum should be a good collection of labels well illustrated by specimens."

Nature of the Work.

A museum should be:
First, a store house.
Second, a work shop.
Third, an institution for entertainment and education.
Fourth, an institution for the dissemination of knowledge.

FIRST A STOREHOUSE.

The State Museum should be the treasury of valuable natural history objects of the State. Plant and animal life are changing. Species are becoming scarce or disappearing. Some animals that were common are no longer to be found in the State, but specimens could yet be obtained in neighboring States, and be preserved here to show what animal life at one time was. The same is true of the plant life. No collection is more valuable or interesting than would be a complete exhibit of the trees of the State. From time to time handsome minerals

are found and they should not be allowed to be lost to the State. Few people are aware that only two states in the United States surpass Illinois in mineral productions and that in the production of one mineral, this State leads all others. Of this mineral, which is produced in such great quantities and which often occurs in crystal groups of great beauty, there are no adequate representatives in the museum.

Besides being a fine store house of the typical and valuable natural history objects of the State it should contain objects to round out and complete the story told of our own natural history objects. For example, when illustrating our chief source of mineral wealth it is desirable to show, not only peat and soft coal, but anthracite, graphite and diamond as well. Though we have no ocean on our borders it is desirable to show sea forms, shells, corals, sponges, sea fish, etc. Though we have no volcanos, volcanic products are interesting and useful in a study of the geology of our own State. Though tropical vegetation is not typical of the State today, tropical woods should be shown for commercial and historical reasons. Our coal deposits were formed under tropical conditions. Though the buffalo and deer are no longer found in the State, they at one time roamed our prairie, and even the ancient relatives of the elephant and rhinoceros frequented the swamp lands of this region.

SECOND, A WORK SHOP.

A museum is a comparatively useless institution without a work shop in which the materials assembled can be put in the best condition for preservation and exhibition. Minerals and rocks are to be tested and trimmed. Fossils are to be worked out of their containing rock, woods are to be sawed and polished. Animal life is to be treated and mounted. Materials and rooms for labelling are necessary. Such a work shop makes it possible for the museum to act in the capacity of,

THIRD, AN EDUCATIONAL INSTITUTION.

It is not enough that the museum be full of material. Just as desirable is it that the materials be so exhibited as to attact the attention most readily, to be understood most easily, and to give the greatest pleasure. The descriptions should be such as to be intelligible not only to the man with scientific training, but to the beginner and the general public as well. When any subject is illustrated it should form a continued story and not appear as a disjointed series of facts. Classification and arrangement should be made in the most scientific and artistic manner.

FOURTH, AN INSTITUTION FOR THE DISSEMINATION OF KNOWLEDGE.

By publication, public lectures, and the distribution of materials the museum can greatly widen its circle of influence. Probably at the present time there is less demand for publication than there is for reaching the people of the State in a more concrete and practical manner, namely, by bringing them in contact with museum material. Acting in accordance with this plan, every high school in the State has been asked if it would appreciate the reception of a small typical col-

lection of the minerals and rocks of the State, and if it would agree to protect the same and give it good exhibition and good use. Several hundred replies have been received from boards of education and high school principals, stating how valuable and greatly appreciated such a collection would be. Probably five hundred such collections, each containing fifty specimens, should be prepared. The cost of preparation of twenty-five thousand such specimens will probably not exceed ten cents a specimen, that is, two thousand five hundred dollars for the whole. A dealer would charge ten thousand dollars for the whole. Such collections will be helping the work of education throughout the State in a practical manner.

The office of the museum is a bureau of information to which come questions of all sorts on natural history subjects. If the curator is unable to answer them he is able to direct the inquirer to some source of information on the subject. Such an office can be influential in promoting the welfare of the peole. The center of government should in a way be a center of information, inasmuch as it is accessible to people who otherwise would not know where else to turn.

To many people even in its present condition the museum is the most attractive and interesting thing in Springfield. This should be much more the case, and if the museum lives up to its opportunities it will attract the people for hundreds of miles around, since there is nothing of its kind in this part of the State.

Excursions to Springfield are made by public schools, by various societies and individuals, to see the handsome State house, one of the finest buildings in the whole State. They visit the General Assembly while it is in session to gain more concrete knowledge in the workings of our government. They come to see the museum, where they may obtain an idea of the rocks out of which the whole State is made, of the minerals which furnish us our mineral wealth, of the remains of the ancient inhabitants as shown in the archaeological exhibits, and of the animals and plants of the State. It is possible for us to give them such entertainment and instruction as they would otherwise be without for the rest of their lives. This information makes them more reasonable, saner and less superstitious, more able to adapt themselves to their environment and aids them in the conquest of nature.

The State is spending millions in caring for the physically and intellectually sick among her people. Why not deal as well with healthy people? Why not treat them as generously in the matter of museums as does Great Britain, as Austria and as France? It cannot be because our need of education is not as great nor can it be because we are unable to have as fine institutions. It is simply because the matter has not received sufficient attention by those competent to handle the situation.

Two things are needed to produce a good museum, a competent staff and financial backing. The present staff is eager to work, the curator has studied the chief museums of England, France and Germany, and last summer he visited a number of the leading museums of Europe and this country for the purpose of seeing the best in arrangement, exhibition and administration of museums. If those whose privilege

is to finance this institution, provide generously, there is no reason why we cannot have a museum commensurate with the needs, wealth and importance of the State. And we earnestly petition that the cause may receive such financial support that by diligent and careful work and judicious expenditure of generous funds we may be able to build up one of the most useful museums in the United States.

A. R. Crook.

January, 1907.

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BIENNIAL REPORT

ON THE

Illinois State Museum of Natural History,

AT

SPRINGFIELD, ILLINOIS.

A. R. CROOK, Ph. D., Curator.

December 1908.

SPRINGFIELD, ILL.
ILLINOIS STATE JOURNAL CO., STATE PRINTERS
1908

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Museum of Natural History.

STATE OF ILLINOIS,

SPRINGFIELD.

BOARD OF TRUSTEES.

CHAS. S. DENEEN, *Governor.*

JAMES A. ROSE, *Secretary of State.*

FRANCIS G. BLAIR, *Supt. of Public Instruction.*

MUSEUM STAFF.

A. R. CROOK, *Curator.*

MISS FANNIE FISHER, *Ass't Curator.*

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LETTER OF TRANSMITTAL.

SPRINGFIELD, ILLINOIS, December 10, 1908.

To the Honorable Board of Trustees Illinois State Museum of Natural History, Springfield, Illinois:

GENTLEMEN—I beg to submit herewith my second report as Curator of the State Museum of Natural History.

Yours very respectfully,

A. R. CROOK,

Curator.

SUMMARY.

CHIEF WORK.

With Museum materials.

Transfer of about 20,000 specimens from State House to Arsenal, washing and preparing same for classification and cataloging.

Steps for securing, mounting and exhibition of deer group.

Collection of building stone.

With Library.

Moving library to new room, obtaining and fitting new cases, arranging and cataloging library.

With lecture course and other lectures.

Office correspondence and information bureau.

Publications.

NUMBER AND CHARACTER OF VISITORS.

CHIEF NEED OF MUSEUM.

New building with 50,000 square feet of space. Neighboring states—Wisconsin, Iowa, Kansas and others, have such buildings now. New York has 80,000 square feet of museum space in magnificent new building. Our State is not surpassed by these neighbors in abundance of material, financial strength, nor intelligence of population.

NOT A LOCAL ISSUE.

GREAT WAVE OF INTEREST SWEEPING OVER COUNTRY.

ORGANIZATION OF STATE ACADEMY OF SCIENCE.

REPORT OF THE CURATOR.

The chief work at the museum during the two years which have elapsed since the writer's first report, has been along four different lines, namely; work with specimens, with the library, with the annual lecture course and other lectures, and with the State Academy of Science.

WORK ON MUSEUM MATERIALS.

SPECIMENS MOVED FROM STATE HOUSE TO ARSENAL.

Between five and six hundred drawers of specimens which, for some years have been in the basement of the State House, during the spring were moved into a new room which the Governor set aside for museum purposes, and have been put in condition for classification, labeling and cataloging. They are chiefly palaeontological specimens although among them are a few minerals. Many of them are furnished with geographical labels and some of them have been classified by various specialists in past years, but they will require a great amount of time for their study and preparation. When they are determined, labeled, classified and cataloged, they will become of value both to this museum and to various museums throughout the country.

They are a monument to the diligent work and scientific zeal of the men who found and assembled them in past years. The collection of so large a number of fine fossils involves the expenditure of a considerable sum of money and it would indeed be a mistaken policy to fail to preserve and use such valuable property. When prepared these materials may doubtless add to the handsome display of fossils already found in the show cases of the State Museum. The true value of the specimens now on exhibition is but imperfectly realized. Recently a visiting specialist from Washington, Mr. David White, who is well acquainted with the palaeontological collections in a majority of the state museums in our country, said it is his opinion that the Illinois collection is unsurpassed and in some lines equaled by that of the New York state museum alone.

The duplicate material above referred to, when put into proper shape will furnish a valuable basis for exchange and enable us to enrich the collection and to fill it out at points in which it is weakest.

PREPARATION OF EXHIBITIONS.

No fund was allowed by the last Legislature for improvement of the collections, nor for purchasing new specimens. Furthermore the museum has no space for additional exhibitions. The new room which was provided was immediately filled with books and cases, and with the specimens moved from the basement of the State House.

The plan now is to reserve a corner of the new room for the curator's office and thus render a few square feet of space in the original museum room (now occupied by the office) available for the installation of a deer group.

A DEER GROUP.

Three deer, (a buck, a doe, and a fawn) will be shown in snow, with a background copied from some bit of forest in the State. The snow scene is chosen because of its beauty and also because it requires less labor and expense than a summer scene would involve. It will serve as a sample of the possibilities in this line of work and an indication of the manner in which mounting of the larger mammals should be done.

The preparation of the group is made possible by the appropriation granted for the employment of a taxidermist.

A HANDSOME EAGLE.

Mr. Isaac Hess of Philo presented the museum with a large bald eagle which is now being mounted and will soon be on exhibition.

COLLECTION OF BUILDING STONE USED IN STATE BUILDINGS.

Notwithstanding lack of funds and space, an attempt has been made to begin a collection of building stone. A collection which illustrates the building stone used in the construction of the different State buildings is valuable and interesting. This collection will supply data concerning the geological horizon and geographical location of the quarries together with samples of the stone.

Eight samples of the beautiful marbles and serpentines used in the new Supreme Court building were furnished by the Drake Marble Co., of Minneapolis, Minnesota.

Below is a list of these ornamental stones and localities at which they are quarried:

Meadow Gray marble, Meadow, Tennessee.
Gray Eagle marble, Knoxville, Tennessee.
Skyros marble, Skyros, Aegean Sea.
Veined Statuary marble, Carrara, Italy.
Numidian marble, near Kleber (20 miles N. E. of Oran), West Algeria.
Verde Campen serpentine, Campen, Pyrenees Mountains.
Alps Green serpentine, Piedmont, Italian Alps.
Verde Antique serpentine, Piedmont, Italian Alps.

COLLECTION OF BUILDING STONES QUARRIED IN THE STATE.

A collection of limestones, dolomites and sandstones of the State has been begun and is possible because of the courtesy of the quarrymen in sending materials for exhibition altogether without expense to the museum. The limestones are represented by fifteen specimens from the Galena-Trenton, Niagara, Devonian, Mississippian and Pennsylvanian formations.

Dolomites represent the Niagara and all of the carboniferous formations.

The sandstones come from the Mississippian and Chester.

The most satisfactorily prepared specimen of building stone for exhibition is one which has been sawed on one side, polished on another, and rough-faced on another.

Some of the specimens received show the working possibilities of the stone.

Below is a list of the samples thus far received together with the name of the donor, the location of the quarry and the geological horizon represented:

Limestone, Marblehead, Adams county, Mississipian, Marblehead Quarry.

Limestone (Mg.), Lemont, Cook county, Niagara, American Crushed Stone Company, Chicago.

Limestone, Biggsville, Henderson county, Mississippian, Biggsville Quarry.

Limestone, Port Byron, Rock Island county, Niagara, Port Byron Lime Association.

Limestone, Thornton, Cook county, Niagara, Brownell Improvement Company.

Limestone, Moline, Rock Island county, Devonian, Cady Stone Quarry.

Limestone 1. Yellow stone, Rockford, Winnebago county, Galena-Trenton, Carrico Stone Company.

Limestone 2. Grey stone, Rockford, Winnebago county, Galena-Trenton, Carrico Stone Company.

Limestone 3. Blue Stone, Rockford, Winnebago county, Galena-Trenton, Carrico Stone Company.

Limestone, 3½ miles south of Winchester, Scott county, Mississippian, Alsey Quarry.

Limestone, Kankakee, Kankakee county, Niagara, Lehigh Stone Quarry.

Limestone, Menard, Randolph county, Chester (Mississippian) Southern Penitentiary.

Limestone (Marble) Menard, Randolph county, Chester (Mississippian) Southern Penitentiary.

Limestone, Belleville, St. Clair county, Pennsylvanian, Casper Stolle Company, East St. Louis.

Dolomite, Grafton, Jersey county, Niagara, Grafton Quarry Company, St. Louis, Mo.

Dolomite, Niota, Hancock county, Mississippian, The Fort Madison and Appanoose Stone Company.

Dolomite, Fairmount, Vermilion county, Pennsylvanian, Casparis Stone Company.

Sandstone, Grand Tower, Jackson county, Mississippian, Grand Tower Quarry.

Sandstone, Menard, Randolph county, Chester, Southern Penitentiary.

THE CULLINAN DIAMOND MODEL.

The Premier-Transvaal Mining Company, Limited, of Johannesburg, South Africa, very courteously sent a model of the Cullinan diamond, the largest diamond ever found, to the museum. Not a half dozen models of this diamond are in the United States. The original weighed 3025¾ carats or 1¼ pounds avoirdupois. It is a blue white stone. It was found four or five years ago at the Premier mine, Transvaal, South Africa, by a Mr. Wells, surface manager of the mine. He was given $10,000 for the good luck of finding it. It is so valuable that the question was what to do with it. It seemed probable that no one would wish to invest so large a sum of money in a single stone. Finally the South African Republic presented the stone to the King of England. He should have presented it to the British museum where it could have remained perpetually showing to the world the size which is thus far known to be represented by the diamond. Instead of so doing the King has had the diamond cut into three gems and these are now nearly completed for setting at Amsterdam. The largest one of these will still be the largest diamond in existence.

FITTING UP A LABORATORY.

A small room in the corner of the library room has been partially equipped as a laboratory. When completed it will afford means for identification of mineral specimens which are still undetermined and of those which from time to time are brought to the museum by visitors for identification and description.

The room may also be so equipped as to serve as a photographic dark room.

WORK IN THE LIBRARY.

At the meeting of the last Legislature (the 45th) a small sum of money was appropriated for improving the museum library and as a result of that appropriation it has been possible to place the library in fair condition.

Cases which were in use by the library at the State House were assembled and repaired and other cases which were no longer of use in the Auditor's department, were overhauled, fitted with adjustable shelves, painted and varnished and assembled in the new room which the Governor placed at the disposal of the museum.

The books have been given a preliminary general classification. Cataloging has been begun and will be continued until a good card catalog system is installed. The books are one of the most valuable assets of the museum. Some of them are of unusual value because of their rarity. Many of them cannot be found in other libraries of the State outside of Chicago or Urbana and some of them not in the latter place. Together they form a useful working collection.

Leading specialists in various subjects have been consulted in adding to the books in the library and as a result the museum will be supplied with the literary fundamentals in various departments of natural sci-

ence. These gentlemen were asked to name a score of the books which every self-respecting natural history museum should have in its library —the books each one of which would be regarded as a *sine qua non* by a worker in anthropology, archaelogy, biology, botany, conchology, entomology, ethnology, geology, ichthyology, mammalogy, mineralogy, ornithology, palaeontology or zoölogy.

Dr. A. Hrdlicka furnished the list on anthropology.
Dr. W. H. Holmes, that on archæology.
Dr. Casanowicz, that on historic archæology.
Prof. J. M. Coulter, that on botany.
Dr. W. A. Dall and Frank Baker, that on conchology.
Prof. S. A. Forbes and C. H. Hart, that on entomology.
Prof. Frederick Starr and Dr. Walter Hough, that on ethnology.
Dr. B. W. Evermann, that on ichthyology.
D. F. W. True, that mammalogy.
Dr. C. W. Richmond, that on ornithology; and the curator that on geology and mineralogy.

Thus the library will be an extremely useful one for those having general or special interest in various departments of nature study.

Topographic maps made by the United States Geological Survey have been assembled in a special case where they are of ready access for consultation. Other maps, State, national and geological, of North and South America, Europe, Asia, Australia and Africa will be assembled, cataloged and put in a condition to be easily available.

Various museum reports, papers of scientific societies, government bulletins, volumes of magazines and general periodicals have been collected to fill out the sets which proved to be defective. Below is a list of some of these series of publications now completed in the library together with the years that are represented with completed volumes:

Bulletin United States Geological Survey 1-330
Water-Supply Papers 35-210
Smithsonian Annual Reports Bureau of American Ethnology 1879-1905
Smithsonian Bulletins, Reports Bureau of American Ethnology 25-35
Smithsonian Annual Report 1896-1905
Proceedings U. S. National Museum 1-32
United States National Museum Bulletin 1-58
Field Museum Reports.
American Museum Bulletins .....I-XXII
American Museum Annual Report of the President.
Proceedings American Association Advancement of Science 1853-1884
Journal of Geology .....I-XV
Geological Society of America .....I-XVIII
American Geologist .....I-XXXV
American Naturalist.
Journal Western Society Engineers.
Proceedings Engineers Society of Western Pennsylvania.
Ohio State Archæological and Historical Society 1-18

CONCERNING THE BINDING OF BOOKS.

The large number of pamphlets in the library were in a scattered and fragmentary condition and in consequence were of small service, it being almost impossible to find a pamphlet on short notice. The work of bringing these pamphlets together and completing various volumes has progressed so that the following have been sent to the bindery.

Those in the first list are now bound and in the library. Those in the second are still in the hands of the binder. Possibly about one quarter as many are still to be prepared. This valuable work is made possible by the Secretary of State who provides for the binding without expense to the museum.

List of Books Bound October 1907 to August 1908.

Title.	No. Vols.
Geological Society of America	15
Geological Magazine	1
Journal of Geology	15
American Geologist	26
Zeitschrift	48
Geological Survey of Canada	18
Bulletin American Museum Natural History	26
Proceedings A. A. A. A.	25
Harvard Museum Memoirs	8
Geological Survey of Texas	3
Harvard Museum Bulletin	29
Professional Papers, U. S. G. S.	19
Proceedings American Philosophical Society	39
Economic Geology	2
United States National Museum Bulletin	10
Proceedings Colorado Scientific Society	3
Annals Carnegie Museum	4
Kentucky Geological Survey	2
California State Mining Bureau, 13th Report	1
Conrad's Fossils Medial Tertiary U. S.	1
Field Columbian Museum Publications	18
Memoirs Carnegie Museum	2
American Naturalist	17
U. S. Geological Survey Bulletin	7
U. S. Geological Survey Water-Supply	2
U. S. Ethnological Survey	2
Bulletin Museum D'Historie Naturelle	9
Records Geological Survey India	19
Catalog Geological Survey India	1
Annual Reports Geological Survey India	1
Memoirs Geological Survey India	18
Punjab Oil Geological Survey India	1
Palæontopraphica Indica	18
Bulletin United States Geological Survey	77
Water-Supply Papers, United States Geological Survey	27

Books in Hands of Binder, November 14, 1908.

Title.	No. Vols.
Abstracts Proceedings Geological Society of London, Sessions 1895-1908	2
Annales De La Societe Geologique De Belgique, Tome XII, Liege	1
Annales De La Societe Geologique De Belgique Portions of Tome 22, 23, 24, 25	1
Annales De La Societe Geologique De Belgique, Liege	16
Annales De La Societe Malacologique De Belgique	6
Annales De La Societe Royale Malacologique De Belgique	11
Annales De La Societe Royale Zoologique et Malacologique De Belgique.	1
Annales Du Musee D'Historie Naturelle De Marseille, IX (X, XI)	2
Annalen Des K. K. Naturhistorischen Hofmuseums Bands 1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21	19
Archives Du Musee Teyler, Vols. 4, 5, 6; 7, 8, 9, 10	7

Title.	No. Vols.
Archives Do Museu Nacional Do Rio De Janeiro, Vols. I-XIII	7
Australian Museum Memoir III	1
Bergens Museum Aarsberetning, 1885-1906	3
Bergens Museums Aarbog	14
Bergens Museum Meeresfauna Von Bergen, 1901, 1906	1
Boletim Do Museu Paraense De Hist. Nat. Vols. III, IV	1
Boletin Del Institute Geologico De Mexico	3
Brazilian Biographical Annual, Vols. I, II, III	3
Bulletin De La Societe Belge De Palæon et D'Hydrologie Tome I, II, III, IV, V, VI	6
Bulletin De La Societe Neuchateloise De Sciences Naturalles Tome XXVI	1
Bulletin Essex Institute, Vols. (25, 26), (27, 30)	2
Bulletin Kansas University Quarterly, Series A, Vols. IX, X	2
Bulletin Kansas University Quarterly, (Science) Vols. I, II, III	3
Bulletin Annales De La Societe De Belgique, (18-24), (25, 27), (29, 31)	3
Bulletin New York State Museum, No. (2-6), (7-10)	2
Bulletin New York State Museum University of New York, (61, 62)	1
Bulletin Societe Geologique De France, 2nd Ser., Tome 4, 12, 17, 18	4
Bulletin Wisconsin Nat. Hist. Soc., Vol. 2, 3, (New Series)	1
California State Mining Bureau Reports 4, 7, 9, 10, 11, 12	6
Catalogue Australian Birds in Aus. Museum, Parts I-IV	1
Chicago Academy of Sciences, Bulletins I-VI	2
Description Geol. et Mineralogique De Dept. De La Loire	1
Etudes Paleontol. sur Les Depots Jurassiques Bassin De Rhone Dumortier	3
First Report Geol. Surv. Arkansas. D. D. Owen, 1857, 1858	1
Geological Survey of Alabama, 1894, 1897	2
Geological Survey of Japan, Benj. Lyman, Director, 1874-1879	1
Geological Survey New Zealand, 1866-1869	1
Geologie et Paleontologie, A. D'Archiac, Paris, 1866	1
Introduction A. L'Etude De La Pal. Stratigraphique. A. D'Archiac	2
Journal Western Society of Engineers, Vols. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	11
Memoirs Science Dept. Univ. of Japan, Tokyo, 1902	1
New York State Educational Dept. State Mus. Bulletin 121	1
Occasional Papers, Calif. Acad. Sciences, Vols. I, II, III, IV	4
Outlines of the Geology of Japan, Tokyo, 1902	1
Proceedings A. A. A. A. Vols. 14, 15, 27, 56	4
Proceedings Davenport Academy of Sciences, Vol. VIII-IX	1
Proceedings Engineers Society of Western Pennsylvania, Vols. VIII, XI, XII, XIV, XV, XVI, XVIII, XIX, XX, XXI	10
Proceedings California Academy of Sciences, 2nd Series, Vols. 3, 4, 5.	3
Proceedings Academy of Nat. Sciences of Philadelphia, 1861, 1868, 1892, 1893, 1894	5
Proceedings Wyoming Hist. and Geol. Soc., Vols. 2, (3,4) 5	3
Prefecture De La Seine, Annuaire Statis. De La Ville De Paris	1
Records of the Australian Museum, Vols. I, II, III, IV	4
Records of the Past, Vol. V, 1906	1
Recueil De Rapports, Pal. De La France. A. D'Archiac	1
Smithsonian Institution, Bureau of Ethnol. Catalog Prehistoric Works	1
Smithsonian Institution, Exchange List, 1897	1
Smithsonian Institution, Catalog N. American Reptiles, Part 1	1
Smithsonian Miscellaneous Collections:	
Catalogue and Part 1, Syn. Lepidoptera of N. Amer., Morris	1
Bibliographical Index, N. Amer. Botany, Part 1	1
Bulletin Phil. Society of Washington, Vol. IV-VIII	2
Bureau of Ethnol. Biblio. Algonquin Language, Pilling	1
New Species and Catalogue N. Amer. Coleoptera, Parts I, II	1
Proceedings Biological Soc. of Washington, Vol. I, II	11
Review of American Birds, Part 1, Baird	1
Synopsis American Wasps, De Saussure	1
Transactions and Abstract Anthropological Soc. of Washington	1

Title.	No. Vols.
Stone, Vols. XX, XXI, XXII, XXIII, XIV, XV	6
The Chemical Engineer, Vol. II, 1905	1
The Journal of the Cincinnati Soc. Nat. Hist., Vols. VI, XX	7
The Kansas Univ. Quarterly, Vols. I, II, IV, V	4
The Kansas Univ. Quarterly, Ser. A. Vols. VI, VII, VIII	3
The Popular Science Monthly, Vols. LXXI, LXXII	2
Traite De Paleon, F. J. Pictet, Tome I, II, III, IV	4
Transactions Wisconsin Acad. Sciences, Arts and Letters, Vols. (II, III) (IV, V,) (VI, VII), VIII, IX, X, XII, XIII	9
University State of New York State Museum Report State Geologist	1

ACCESSION OF BOOKS, JUNE 1907-DECEMBER 1908.

The following books have been purchased or given to the Museum:

The New International Encyclopedia	17
The New International Year Book	1
Geology, Chamberlin and Salisbury	3
An Introduction to the Study of Geology, Scott	1
Rocks, Rock-Weathering and Soils, Merrill	1
Gems and Gem Minerals, Farrington	1
Clays, Occurrences, Properties and Uses, Ries	1
Copper Mines of the World, Weed	1
Economic Geology of the U. S., Ries	1
Notes on Assaying, Lodge	1
Determinative Mineralogy and Blowpipe Analysis, Brush-Penfield	1
Hydraulic and Placer Mining, Wilson	1
The Cyanide Process, Miller	1
Minerals and Metals, Goesel	1
Handbook for Surveyors, Merriman Brooks	1
Principles and Practices of Surveying, Breed-Hosmer	1
Clean Water and How to Get it, Hazen	1
Popular Guide to the Heavens, Robert Ball	1
Text Book of Botany, Campbell	1
Three Acres and Liberty, Hall	1
The Vegetable Garden, Wilson	1
Handbook of the Trees of the Northern States and Canada, Hough	1
The Soil, King	1
Fertilizers, Voorhees	1
Principles, Bailey	1
Luther Burbank, Mendel	1
Mushrooms, Hard	1
The Animal Mind, Ingersoll	1
The Origin of Species, Darwin	1
Flashlights in the Jungle, Schillings	1
Comparative Anatomy of Vertebrates, Wiedershein	1
Quins Anatomy (Osteology), Thane	1
American Men of Science, Cattell	1
Who's Who in America, Marquis	1
Geographen Kalender, Perthes	1
City Directory, Springfield, Polk	1
Rand McNally R. R. Guide	1
New York State Museum	19
Field Museum	5
Harvard Museum	1
American Museum of Natural History	15
Carnegie Museum	1
American Muesum of Natural History	15
United States National Museum	10
Ohio Archæological and Historical Society	18
Proceedings American Association Advancement of Science	2
Economic Geology	2
American Journal of Science	2

Title.	No. Vols.
Geological Society of America	2
Journal of Geology	2
Popular Science Monthly	2
American Naturalist	4
Geographical Magazine	3
Science	2
Geological Survey of Ohio	4
Geological Survey of Maryland	2
Geological Survey of West Virginia	2
Geological Survey of New Jersey	8
Geological Survey of Illinois (Bulletins)	7
Illinois State Entomologist	3
Illinois Historical Society	4
Illinois Reports of State Officers	8
Geological Survey of Canada	2
United States Geological Survey	30
Smithsonian Institute	10

PRESENT CONDITION OF THE LIBRARY.

As a result of the expenditure of this small appropriation and as the consequence of a considerable amount of labor the books are well supplied with cases. They are greatly increased in number and are in better condition than they have been since the beginning of the institution.

A considerable amount of work will still be necessary to bring the library up to the condition in which it should be maintained. The aim should be to provide an available source of information on all natural history subjects. As the result of the labors of several scholars during the last thirty years the museum has a good nucleus. It is the part of wisdom to conserve and increase this nucleus.

THE MUSEUM LECTURE COURSE.

During the last two years, acting upon the thought that a museum should not only collect, prepare and exhibit *materials* which might serve to "furnish food for thought and expand the human mind," but should also *explain* and *describe* the beauties of nature, a course of popular lectures on natural history and travel were arranged and given at the Arsenal auditorium on Saturday evenings.

The gentlemen who gave the lectures did so without finacial remuneration and the museum and the public which enjoyed the two courses are under great obligations to them.

The lectures were free to the public and the attendance was uniformly gratifying, the audiences numbering sometimes about one thousand people.

At this time of the dwindling of interest in nature in some quarters, of "nature fakirs" in other quarters, and of general interest and enthusiasm for all the world of nature in still other quarters, courses of lectures similar to these are indeed valuable. To the writer have come repeatedly expressions of appreciation from individuals among business men, from societies and organizations, and at the close of the

second annual lecture course the audience extended a rising vote of thanks to the museum because of the "excellent series of lectures which it had furnished the citizens of Springfield."

In many cities of the United States, similar courses are offered annually and it is to be greatly regretted that because of lack of money the museum was this year unable to continue a work which is so valuable and so widely appreciated. It is to be hoped that in the future such a course may be continued as long as there is a demand for it.

The curator takes this means of extending in behalf of the museum thanks to the gentlemen whose generosity in freely giving their time and talent made the course possible.

Upon one of the evenings at which a lecture was to be given in the Arsenal auditorium the building was neither heated nor lighted and several hundred people would have been greatly disappointed had not the Institution Auditor, Mr. Whipp, promptly come to the assistance of the museum. He made it possible to secure a fine audience room. This courtesy between the departments is a matter for earnest congratulation.

The following are the dates and titles of the lectures:

FIRST ANNUAL MUSEUM LECTURE COURSE.

1906	Dec. 1.	"The Making of the Grand Canyon of the Colorado" (Illustrated) A. R. Crook, Ph. D., Curator, Illinois State Museum of Natural History.
1906	Dec. 8.	"American Caverns" (Illustrated) O. C. Farrington, Ph. D., Curator of Geology, Field Columbian Museum.
1906	Dec. 15.	"Holland and the Hollanders" (Illustrated) H. G. Keppel, Ph. D., Northwestern University.
1907	Jan. 12.	"Japan Resourceful" (Illustrated) Chas. F. Millspaugh, Ph. D., Curator of Botany, Field Columbian Museum.
1907	Jan. 19.	"What is Coal?" (Illustrated) Prof. S. W. Parr, University of Illinois.
1907	Jan. 26.	"Origin of Fuels," H. Foster Bain, Ph. D., State Geologist.

SECOND ANNUAL MUSEUM LECTURE COURSE.

1907	Nov. 30.	"Diamond Mining" (Illustrated) A. R. Crook, Ph. D., Curator, Illinois State Museum of Natural History.
1907	Dec. 7.	"Greater Steps in Human Progress," W. J. McGee, LL. D., Director, St. Louis Public Museum.
1907	Dec. 14,	"Zoölogical Collecting in British East Africa" (Illustrated), C. E. Akeley, Field Museum, Chicago.
1908	Jan. 4.	"Mt. Pelé and the Destruction of St. Pierre" (Illustrated), E. O. Hovey, Ph. D., American Museum of Natural History, New York City.
1908	Jan. 11.	"The Canadian Rockies" (Illustrated), C. S. Thompson, Commercial Agent, Illinois Central R. R., Milwaukee.

LECTURES GIVEN IN THE MUSEUM.

From time to time classes of pupils from high schools, grammar schools, colleges and other schools, not only from Springfield but also from surrounding towns, visit the museum in a body and at the request of their instructors they are given talks by the curator on the various phases of natural history illustrated by the collections. This method of instruction has great possibilities of attractiveness and profit. A

general invitation is hereby extended to all schools to take advantage of this means of extending the acquaintance of their pupils with inanimate and animate nature. Many long journeys might fail to bring to view the various phases of the natural world which are well exhibited in our State museum.

OTHER LECTURES AND ADDRESSES GIVEN BY CURATOR.

1906	Oct. 26.	Chicago Academy of Sciences, Chicago.
1906	Nov. 20.	Ewing College, Ewing.
1906	Nov. 23.	Wm. McKinley High School, Chicago.
1907	Feb. 21.	Wendell Phillips High School, Chicago.
1907	Mch. 15.	James McCosh High School, Chicago.
1907	Mch. 22.	Jonathan Burr High School, Chicago.
1907	Apr. 12.	Laurel M. E. Church Meeting, Springfield.
1907	May 14.	Ad. Men's Club, Springfield.
1907	May 14.	Ad. Men's Club, Springfield.
1907	Jun. 1.	Douglas Avenue M. E. Church, Springfield.
1907	Oct. 9.	Odd Fellows Building (Y. M. C. A.), Springfield.
1908	Jan. 24.	James Milliken University, Decatur.
1908	Feb. 26.	Arion Hall (Current Topic Club), Springfield.
1908	Feb. 26.	Emanuel Brotherhood, Springfield.
1908	Mch. 15.	Divernon Presbyterian Church, Divernon.
1908	May 22.	High School (College Alumnæ), Springfield.
1908	Nov. 7.	Farmingdale (Presbyterian Church), Farmingdale.
1908	Dec. 8.	Douglas Avenue Men's Club, Springfield.

WORK OF A GENERAL NATURE.

OFFICE CORRESPONDENCE AND INFORMATION BUREAU.

While the correspondence conducted by the office is less than it doubtless was when the curator was also State Geologist still many calls are made for information of various kinds concerning natural history subjects. A large part of the correspondence during the year past has arisen in connection with the organization of the State Academy of Science.

The curator is in a position to furnish information along various lines of natural history, thanks to the improving condition of the library.

The laboratory will soon be in a fair condition and information can be given in regard to all mineralogical and geological subjects. While quantitative assays will not be made, minerals from any locality will be determined and described. Many inquirers desire professional advice for commercial purposes and this is given where the investigation and report does not involve a railroad journey.

While much use is made of the museum as an information bureau it could be more widely used in this capacity if the facilities for performing such a function were more widely known. The curator has classified several high school and other geological and mineralogical collections. Some owners of such collections hesitate to make use of the opportunity not wishing to be involved in any expense. There is no expense. This information is given gladly and altogether without expense to those wishing it done.

PUBLICATIONS.

Besides several articles for newspapers and scientific journals, the curator has written a history of the State museum, and articles for an encyclopedia on coal, diamonds, general geology, palaeontology, and mines and mining, and is now working upon a guide book for the museum.

WORK OF COLLECTING.

From time to time information comes to the office of interesting specimens of various kinds which could be obtained if the curator in person were able to visit certain localities. In former years the railroads furnished the curators free transportation and that was a great help in collecting. That custom no longer obtains and no fund is allowed the museum specifically for such purposes. Consequently many valuable things are lost to the State. It would be the part of wisdom to provide for such contingencies so that in case of necessity the curator or other representatives of the museum might go into the field for collecting purposes.

VISITORS.

CLASSES OF VISITORS.

The museum is inspected both by citizens of this city and by persons from other parts of the State. The latter make more use of it than do the former.

The citizens of Springfield who come to see the collections number as many adults as children. The children come alone or in pairs or as classes from the schools. They observe and question and reason often with great enthusiasm. If some of the lukewarm friends of the museum could see the enthusiasm of the children, hear their shouts of glee, and listen as some child mimics the hoot of the owl or the call of some bird, his respect for the museum would increase and he would be led to see that for innocent amusement and pleasant education the museum is surpassed by no institution in the city. The adults who come may have simply an idle curiosity or a definite purpose in seeing the birds, or fish, or Indian remains, or palaeontological or mineralogical specimens.

More people from a distance use the museum than do the citizens of this city. The institution is in reality a State affair. It is State wide in its collections, obligations and uses. He who regards it as a local institution wholly is greatly mistaken.

NUMBER OF VISITORS.

While the number of people who use the museum is not accurately counted, estimates have been made by counting the attendance at certain times. Record was kept for thirty days in May and about 2,000 visitors were recorded. Of this number 852 were men, 658 were women, and 477 were children. During the week of the State fair

probably as large a number as that are crowded into the room in six days. It is not far wrong to say that from 20,000 to 30,000 people come annually.

The number appears to be increasing in spite of the fact that the museum is hidden away in an unsightly and inconvenient place and in spite of the fact that the materials are imperfectly installed and unsatisfactorily labeled.

MUSEUMS IN CENTRAL ILLINOIS.

Let us consider for the moment what the actual condition in central Illinois in regard to museums is. Within a distance of more than one hundred miles in each direction from Springfield, that is in a territory of more than forty thousand square miles, there is no *first class* museum. Within this territory there are living three or four million people. This state of affairs is somewhat similar to what it would be if these people had no library, nor pictures, nor were able to hear good music, inasmuch as a museum belongs in the class of things which minister to the æsthetic interests and tastes. Yet museums differ from libraries in this, namely: that they appeal to the unlettered man as well as to him who is accustomed to gain renewed inspiration and fresh information from books.

It is only a question of time as to when the State will have a first class museum. It is sure to come. But anyone who could give the subject attention and on his own account could learn the true condition of affairs would be convinced of the great desirability of beginning this work immediately. The museum is *historical* as well as *natural*. It deals with things which record the life and its environment in the past as well as those things which show the present condition of nature, and for that reason is it especially desirable that these records of the past be preserved before they are entirely covered up, dissipated and lost forever. All kinds of materials are disappearing. Some of them are the relics of former races of men who inhabited this region before the advent of the European colonists. Some of them are the wild animals which have been decreasing in numbers ever since early settlers and their descendants began using their shot guns and rifles. Some of them are beautiful minerals that have been sold to communities where they are more highly prized than in the State in which nature had placed them.

PRESENT CONDITION OF STATE NATURAL HISTORY MUSEUM.

At the present time the most valuable portion of the museum consists of its geological collection. It contains a large number of invertebrae fossils that were brought together under the first geological survey by Dr. Norwood and Prof. Worthen. Dr. Lindahl also although serving in the capacity of curator only, inasmuch as the geological survey had been discontinued, collected many geological specimens. As the result of the work of these men an enormous quantity of material was brought

together. Because of their diligence, that of their assistants, and of the various specialists who from time to time contributed their services (ofttimes gratuitously), the materials were well classified and scientifically labeled. Fortunately for various other institutions in the State, but somewhat to the detriment of the State museum, many of these specimens were distributed among colleges and universities. Were it not for such gifts the museum would be much wealthier than at present. However, the donations were made where they would be highly appreciated and well used and notwithstanding these gifts an abundance of material still remains and is of such a quality as to be a reason for congratulation.

Other departments of the museum—such as the zoological—have been the recipients of material from various sources. The State Laboratory of Natural History, under Prof. Forbes has furnished much material of this character. It embraces a good collection of birds of the State, of the fishes and the insects.

The archæological collection is less in quantity, variety and completeness than many a private collection.

The housing of this collection is totally inadequate both as to the amount and character of the space. The fittings and care of the rooms is such as we might expect to find in some poor Latin nation or southern country rather than in a wealthy State in a country inhabited by Anglo-Saxon descendants. Unfortunately, space which is otherwise but partially utilized or not utilized in any way is withheld from giving valuable service. Such a condition of affairs should be changed at once and would be if the attention of those who should consider the matter could but be directed to the subject.

Some of the Exhibitions Which Should be Made.

MINERALOGY.

The State of Illinois produced in 1907, $40,000,000 worth of coal. One would think that with such a production it might be a matter of interest both commercially and scientifically to exhibit samples of the coals of the various geological horizons and of the different geographical localities. Every coal producing county in the State should be represented by a sample of the kind of coal which is found within its territory, and this sample should be accompanied by chemical analyses showing the amount of combustible material (pure carbon and sulphur) and of residue. There should be also minature models of underground workings and of surface equipments. This great industry would furnish an instructive and interesting subject for illustration.

The clay products of the State amounted to more than $12,000,000 in 1907. Again of these products the museum should contain a varied and complete series of samples which could show the texture and composition of all varieties of clays and their finished products.

Illinois produced more than 24,000,000 barrels of crude petroleum in 1907. But one or two states in the Union report a larger yield. This great contribution of nature should be recorded in graphic form in the State Museum. An exhibition of sections of oil wells, of oil machinery, of

various crude oils and their refined products and by-products would be a surprise to visitors who have small conception of the size of the industry or of the multitude of the useful articles derived from petroleum.

About $3,000,000 worth of building stone was quarried in the State last year. What could be more appropriate than that there should be some place in the center of the State where all interested could find a full series of these building stones in samples which would represent their appearance when sawed, when polished, when worked in the rough, when bush hammered; and where the samples are accompanied with chemical tests, reports on the crushing strength, resistance to weather and discoloration.

In addition to the above mineral resources which contribute so largely to the wealth of the people of the State, there may be mentioned possibly a dozen other mineral substances that are attractive because of their utility or beauty but which are less widely known and utilized. For example clays, cement material, sand, fluorite, sphalerite, galena, pyrite, etc. The museum should contain samples of the various substances which go to make up natural and Portland cements—structural and building materials of such great value today, and which promise to be increasingly useful in coming years as wood becomes increasingly expensive. About $3,000,000 worth of cement was manufactured in the State in 1907.

Then there should be exhibited samples of the mineral which may be said to "make Illinois famous." This mineral is produced more abundantly in Illinois than in any other State. The only other State to equal it or on some occasions to surpass it in production is Kentucky. As a rule Illinois leads. Several hundred thousand dollars worth of this mineral was produced here last year. Were it not for this mineral, porcelain lined bath tubs would not be as cheap as they are at present. Enameled glass could not be as easily made. Steel rails would be more expensive. All chemical works which use hydro-fluroic acid would be supplied with greater difficulty. This mineral is fluorite, from *fluo,* I flow, so named because of its ready fusion which renders it valuable as a flux. In iron manufacture a few shovelfuls of fluorite thrown into the iron ore charge when placed in the furnaces render the slag that rises to the top more liquid and hence aids in obtaining a purer iron. Fluorite occurs in handsome large cubes. Their beauty is so great that they are often used as ornamental material.

Then there should be collections illustrating the sand and gravel used in building; sand used in glass manufacture; clay, mineral waters, lead, and zinc; and sulphur obtained from iron pyrite and used in the manufacture of sulphuric acid. Last year more than $120,000,000 worth of minerals, dug from the mines and quarries and wells of Illinois, contributed their share to the prosperity and wealth of our citizens. Both because of their enormous quantity and great value, and because of their diversity, suggestion and beauty, these natural resources should be represented in the State museum.

PALAEONTOLOGY.

Illinois is an interesting State to the palaeontologist, since in its great expanse of sedimentary rocks are contained many kinds of fossils. Our museum now contains nearly six hundred *type specimens.* A *type specimen* is one which when first discovered is figured and described and being thus definitely placed in the store house of the world's information, gives to all subsequent specimens of that kind their name. This is as if the first man to happen upon a huge leathery-skinned animal with gigantic tusks, and deeply corrugated teeth should call it a *mastodon* both describing and picturing it. Then the next man who saw it must call it by the same name. And if the discoverer should capture the mastodon and mount him for exhibition and place him in a museum that specimen would be a *type specimen.*

Few museums have six hundred type specimens.

While our museum is well supplied with invertebrate fossils, it is poor in vertebrates. Many thousands of years before the advent of the white man, mammoths and mastodons were common in forest and field. Some of them became mired in the swamps around which they fed and were buried in the mud. Later when the mud became partly lithified the bones of these monsters lost much of their animal matter and were turned partly to stone.

BIRDS.

According to a bird census which was undertaken at the University of Illinois under the direction of Prof. Forbes, at the State Laboratory of Natural History, it is estimated that the bird population of the State numbers more than thirty million inhabitants. The most numerous representatives in this bird population are the blue bird, the black bird, the robin, the woodpecker, the flicker, thrushes, wrens, warblers, nuthatches, meadowlarks, mourning doves, swallows, owls, kingfishers, sparrows, blue jays, catbirds and hawks. The museum should contain handsome groups of each of these kinds of birds, and every kind of bird in the State should be represented in order that the lovers of birds might have an opportunity of becoming familiar with the rarer as well as the more common kinds. The already excellent collection should be greatly increased and could be remarkably improved from an artistic point of view.

MAMMALS.

At one time savage animals such as bears, panthers, wolves, coyotes, foxes, lynxes and wildcats, prowled through the forests and disputed the possession of the prairie with the timid herbiverous animals. Upon the grassy plains buffalo, deer, antelopes and other picturesque and beautiful grass eating animals were wont to roam. In the trees the opossum, raccoon and squirrel abounded. On the river banks and in the water there were muskrat, otters and the beavers busy with their dam. Many of these animals have disappeared entirely and others are rapidly being exterminated. The museum should contain handsomely

prepared exhibitions of these animals in order that a view of the passing procession might be preserved for this and for coming generations.

When a collection of these animals is suggested to the average man there appears before his mind's eye a series of stiff, ungainly, ill-formed, motheaten animals standing on ugly wooden supports and herded together in a manner more intimate than is expected to be seen at the time when the lion and the lamb lie down together. The picture which should be presented ought to be one that shows a combination of scientific care and artistic taste. It should be such a picture as might represent a group of buffalo browsing on prairie grass, or of a deer family just coming through the woods and standing at attention. The most satisfactory method of exhibition is that which represents the animals as nearly as possible in their native habitat.

TREES.

Another interesting exhibition would be found in a room set aside for the various kinds of trees which now or in the past flourished in the State. A five foot section of the trunk of a full grown tree so trimmed as to show a cross section for half the thickness of the tree, then a longitudinal section of about two feet, then a beveled section of the top portion would be selected. The right half of these various sections could be varnished or oiled in a manner to best show the attractive grain of the wood, while the other half would remain in its natural condition. Back of this trunk section, would be samples of the leaves and fruit and a picture of the tree as it originally stood. Such an exhibition would appeal to the man who loves trees for their artistic qualities as well as to him who sees in them material for building and furnishing.

ANTHROPOLOGY.

A student who should desire to study the life and history of the earliest inhabitants of this region who have left any mark of their civilization behind them, would be unable to find the best material in this part of the country. Unfortunately it would be necessary for him to go to some distant city or even to England. This condition of affairs should not now obtain nor longer continue. It should be changed at once, since the archaeological and ethnographical remains of the vanished red man could better be collected now than at any subsequent period. One or more rooms should be devoted to such exhibitions as would convey a vivid picture of the stature and physiognomy of early Illinois Indians, their tepees and wigwams, their pottery, knives, axes, tomahawks, spears, bows and arrows—all the material available to give an insight of their manner of life and surroundings.

Many of the older civilized nations as for example many European countries, have enacted laws prohibiting the sale or distribution of their natural history specimens or other museum material. In Belgium is found a remarkable fossil three-toed sloth called *ceratopsis*. Though the State museum in Brussels has a dozen specimens of this gigantic reptile, and the museums in other countries would be anxious

to obtain a single example for their collections, they are not permitted to do so since there is a law against sending such things out of the country. Illinois permits any of her natural history treasures to be removed to places whose inhabitants have a keener appreciation of the value of such things.

Amount of Space Requisite.

PRESENT CONDITION.

A consideration of the materials which should be exhibited gives some indication of the amount of space that is required. At present, with but the beginnings of a general collection everything is so crowded as to be discreditable. Lack of space is an effective bar, an insurmountable obstacle to progress. It is surprising that the collections are in as good condition as they are. The museum has been driven from pillar to post. It has been burned out. Its materials have, from time to time been, distributed to other institutions. It has been moved nine times. If Benjamin Franklin's statement that "Seven moves are as bad as a fire" is true the museum has been burned out twice.

The disgraceful present condition should be changed at once. Improvement is bound to come some time. But that is not enough. It should begin now. Every day of postponement is a day of passing opportunity. Fauna and flora are changing. Antiquities are being dissipated. Minerals and fossils are being carried away.

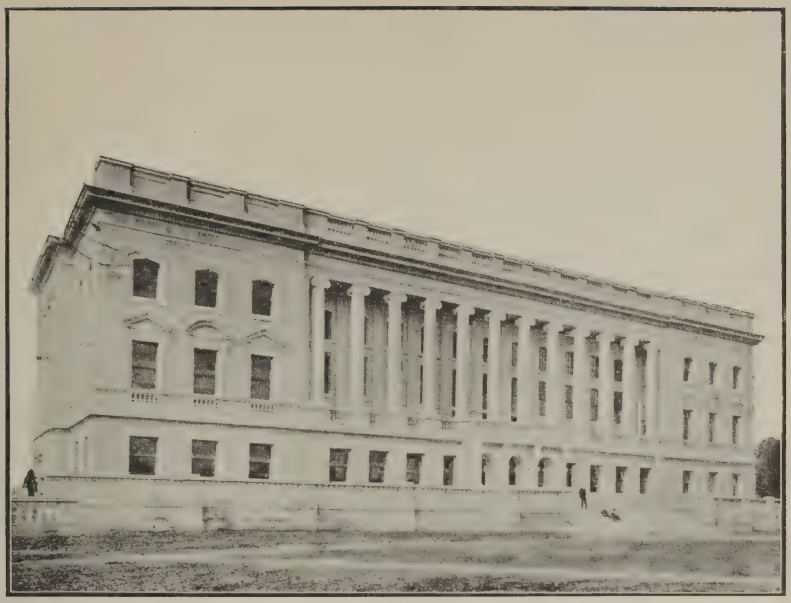
The first step in the improvement will be an increase in the amount of space. From 50,000 to 100,000 square feet of floor space can be well utilized in the passing years.

When the writer first assumed his duties as curator, he mentioned forty thousand square feet as an estimate of the space necessary for a modest exhibition of the natural history of the State. Casually meeting the gentleman to whom the estimate was sent, he was greeted with the pleasantry, "You ask for forty thousand square feet. Why do you not at once ask for the whole State?" However, the gentleman making the remark was less inclined to consider the estimate extravagant when told that the Chicago Academy of Sciences has about 40,000 square feet of space although it is a local institution chiefly and not state-wide in its obligations.

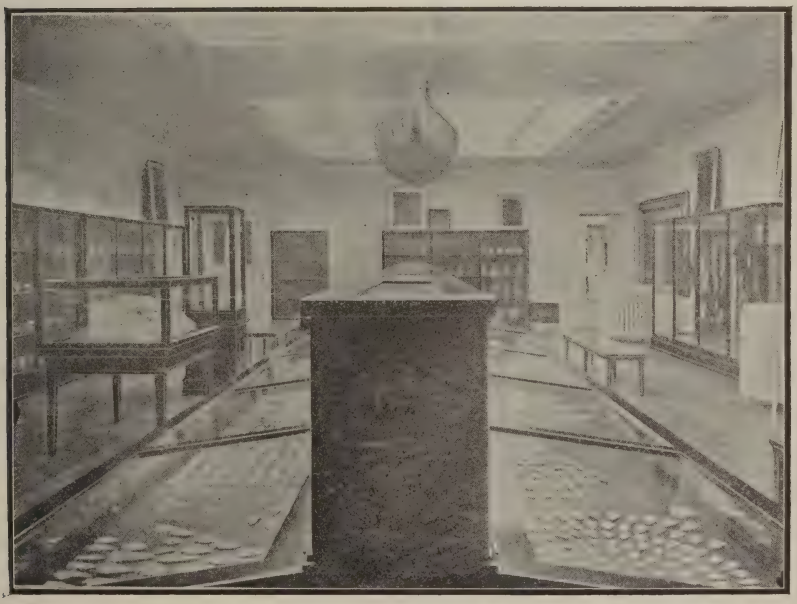
The American Museum of Natural History of New York City has 451,000 square feet of floor space and the new museum which Marshall Field made possible for Chicago and which is to be the pride of that city will have 750,000 square feet of exhibition and work room space.

A NEW BUILDING.

The only way in which the floor space can be obtained will be by the erection of a new building. The capacity of the present buildings is already taxed. In a State with the population and wealth of Illinois more room should be provided for the conduct of the State business. This new building could care for the Natural History Museum, the War Museum, the State Historical Library and possibly the State Library—

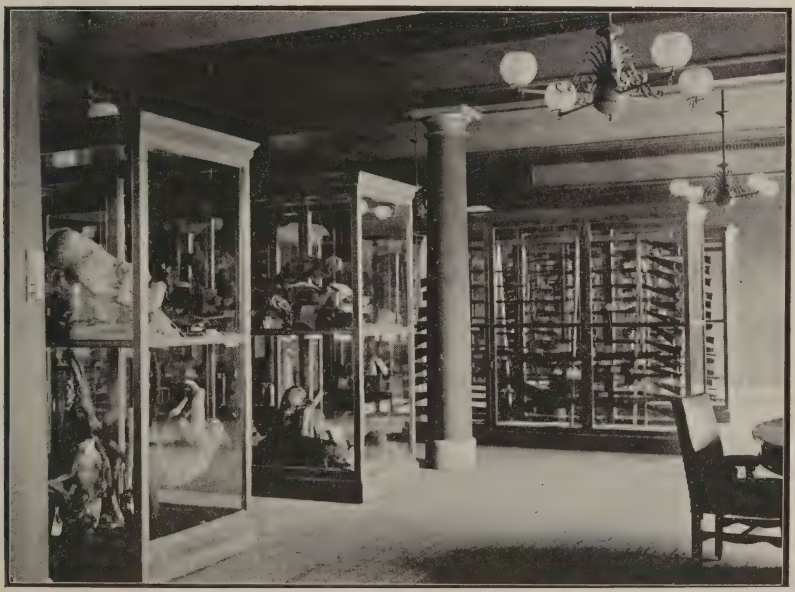


Wisconsin Historical Library and Museum.

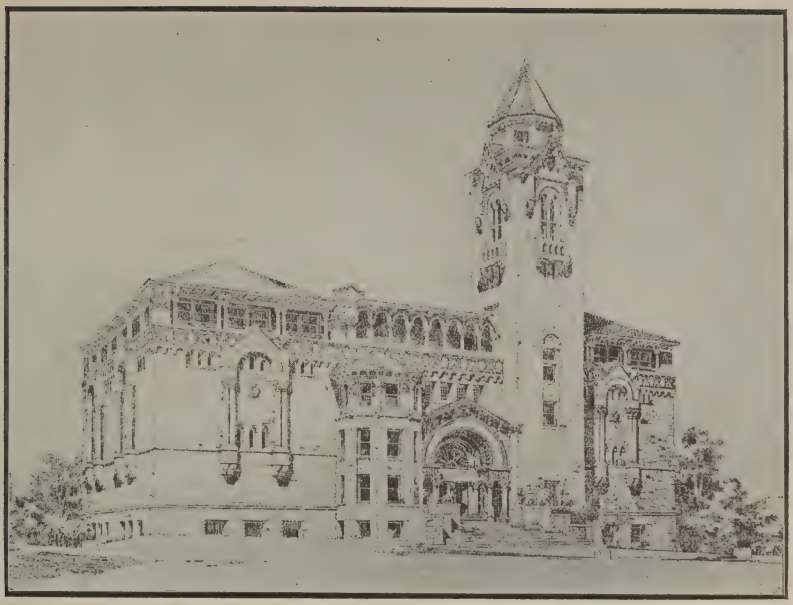


Wisconsin Ethnographical Museum.

Iowa Historical Library and Museum.



Iowa Museum, Zoological Room.



KANSAS MUSEUM NATURAL HISTORY.

MISSOURI ZOOLOGICAL LABORATORY AND MUSEUM.

four different departments. Other departments also, such as that of the Superintendent of Public Instruction might appropriately be accommodated in the building. Then the State would be provided with one building for administration, one for the Supreme Court and one for science, history, letters and education.

MUSEUM CONDITIONS IN OTHER STATES.

A plan similar to the above proposed is carried out in New York. Their building known as the educational building, is an imposing structure of magnificent proportions. Within it the museum has 80,000 square feet of space. Illinois is not less appreciative of the arts, sciences and letters than is New York.

Making no mention of a dozen of more states which have handsome museums let us turn our attention to our immediate neighbors.

Indiana has a fine collection of natural history objects in the State House. Although it now has more than twice the space at the disposal of our museum, a movement is on foot to obtain a handsome new building.

Wisconsin within the last six years has erected at an expense of $600,000.00 one of the most perfect and beautiful buildings set aside for a historical library and museum at any place in the United States. It stands as a noble monument of the architectural skill and honest workmanship of the people who planned and built it. It is the kind of a building which Illinois should have.

Iowa with her customary progressive spirit and the taste for those things which contribute to the beauty and elevation of mankind, has recently erected a $250,000 building which is used for the double purpose of museum and historical library.

Kansas has within the last two years erected a handsome museum building at a cost of $100,000. In it are assembled an extraordinary collection of mammals mounted in a form of a panorama with buffalo on the plains, antelope coursing over the table lands, Rocky mountain sheep springing over the rocks, and a mountainous background.

Illinois should be better equipped than any of these states.

KIND OF BUILDING NEEDED IN ILLINOIS.

The new building should be commodious, convenient, substantial and handsome. It should be the counterpart of the Supreme Court building but with greater floor capacity. It should be a building that would stand for hundreds of years to the constant enjoyment and elevation of the people. It would be a rich storehouse of things worthy to be preserved and perpetuated.

What the British museum is to London, the Jardin des Plantes to Paris, the Museum für Naturkunde to Berlin, and the American Museum of Natural History to New York, it should be to Springfield and to all the region around.

NOT A LOCAL ISSUE.

While the capital of the State would be the first to profit it would not be the last.

More visitors come from other places than from Springfield.

The materials on exhibition are assembled from the whole State.

The museum would of necessity be assembled in one city and no city is more appropriate than the capital.

This new building could be the store house for the whole State. From its surplus would be sent out collections to all parts of the State. It would be a distributing center.

Every one in the State interested in education should have an interest in the museum.

A WAVE OF INTEREST IN MUSEUMS.

It may be said that a wave of interest is sweeping over the country. At Washington a three million five hundred thousand museum building is being erected. In many states and cities buildings for such purposes, are being planned or built.

Even in Mexico City the interest is such that last year a prize was offered for the best design for a museum building.

The finest building erected in all Great Britain in 1907 was the South Kensington museum building.

It has come to be recognized that museums are as valuable as libraries. As in primitive communities libraries are often lightly esteemed so is it with museums. But in older communities museums are the most attractive of public institutions.

What is it that the tourist abroad is sure to see? The museum, of course. Every town which he visits is made more attractive to him by its fine collections representing the art of the people and the treasures of nature.

AN EVIDENCE OF THE VALUE IN WHICH MUSEUMS ARE HELD.

When farsighted, sensible, successful business men are interested in an institution and support that institution at their own cost, it must be a valuable one. It is said that "money talks." Why is it that H. W. Jackson of Chicago gave one million dollars to the museum which is to make Chicago one of the museum centers of the United States?

Why is it that Marshall Field gave that museum eight million dollars and Andrew Carnegie gave the Carnegie museum at Pittsburg ten millions?

James Bryce, author of "The American Commonwealth," English Ambassador to the United States, in an address at the Founder's Day celebration at the Carnegie museum said, "In no field has so great a crop and so precious a crop been reaped in the last two centuries as in the field of science. Science is king and the men of science are the ministers and court officials who surround the throne and who enjoy not only the authority, but also the fashion and prestige which radiate out from a court.."

The museum stands as a representative of one of the departments of science.

Morris K. Jesup, President of the Chamber of Commerce of New York, a man noted for his wealth, his philanthropy and interest in the better things of life, when giving one hundred thousand dollars to the American Museum of Natural History, said, "I believe the museum to be today one of the most effective agencies which exist for furnishing education and innocent amusement and instruction to the public."

Similar testimony has been borne by men of wide experience and breadth of culture in all parts of the country and that the expressions were not mere words lightly spoken has been evidenced by the fact that these men in some cases have given hundreds of thousands and even millions of dollars to the cause.

Since the museum is so important, the State of Illinois cannot afford to treat it in an improvident and ungenerous manner. Now is the time when the matter of a new building should be taken up and the next Legislature in providing for a dignified and beautiful housing of its museum, will be fulfilling one of its most important duties.

THE STATE ACADEMY OF SCIENCE.

For the last twenty years Illinois has had no society or organization corresponding to the natural history societies under state auspices which are found in the majority of our neighboring states. At two different periods, the first from 1858 to 1871, and the second from 1879 to 1885, there were natural history societies, but at that time the number of men actively engaged in scientific work or somewhat interested in natural history, were few in number. Workers in science were poorly paid and the means of gathering together were less numerous and convenient than today. Consequently both of these societies were short lived. Repeatedly in recent years there has been more or less widely felt among men of science in the State, a need of some kind of an organization.

In the spring of 1907, the State Geologist, Dr. H. F. Bain, mentioned the desirability of a State Academy to the writer and suggested that it would be fitting for the curator of the State museum to undertake the work of bringing the matter to the attention of the men of science in Illinois. The writer replied that the State Geologist was peculiarly adapted for such work, but Dr. Bain was not to be prevailed upon to take it up and as the result of his persistent encouragement the curator endeavored to bring the project to the attention of those who might be interested in the formation of a State Academy of Science.

A list was made of the teachers of science whose addresses could be secured. The number was found to be surprisingly large so that the

following letter was sent to something more than five hundred men and women who were teaching and working in different branches of the natural sciences:

March 20, 1907.

DEAR SIR—There seems to be a somewhat general demand in Illinois for the organization of a State Academy of Science similar to those that exist in our neighboring states. The purpose of such an academy would be to increase interest in science and to promote the interest of science by banding together all grades of scientific workers.

The academy would furnish a means of extending the acquaintance of scientific men of the State among themselves. It would afford a stimulus to beginners and workers in science in the more isolated communities in the State. It would be the means of encouraging research and publication. It would aid in the dissemination of scientific knowledge. Its influence would promote the efficiency of the scientific work done by the State.

Other interests, for example commercial and military, are at present strengthened by effective State organizations. The State Medical Association, State Teachers' Association, State Historical Society, etc. are well organized and influential. It is just as essential that the scientific men in all branches be united in some organization as an academy.

The dues should be nominal; the meetings be annual, semi-annual or biennial; the membership, of different ranks to suit a varied constituency; the officers, numerous enough to accomplish the purpose of the academy; the publications, possibly provided for by the State, of such nature as to meet the need of the academy.

Would you kindly bring this matter to the attention of the scientific men of your institution and, at your earliest opportunity, report to me their opinion as to the advisability of soon calling a meeting for the purpose of forming such an academy, and state at what time in their opinion such meeting should take place.

Hoping that the movement may receive your cordial support, I am

Yours very truly,

A. R. CROOK,
Curator.

This circular letter called forth replies similar to the following:

I will take the time to do what I can in helping on the good cause.—*T. C. Chamberlin, University of Chicago.*

It will tend to bring together the scientific men of the different institutions of the State in a way that nothing else will.—*S. W. Williston, University of Chicago.*

I should be very glad to do anything in my power to assist in organizing such an Academy, and I am sure the members of my staff will be glad to help.—*George A. Dorsey, Field Muesum of Natural History.*

It seems to me therefore that there is still ample room for a State Academy which shall hear, discuss and print the essential and important research of the people of Illinois.—*Henry Crew, Northwestern University.*

Resolved, That the Science Club of Northwestern University recognizes that great scientific and practical benefits may be derived from the organization of a State Academy of Sciences, and approve heartily the efforts being put forth for that purpose by Professor A. R. Crook, Curator of the State Museum.—*U. S. Grant, President.*

I trust that one of the first advantages to be derived from the new Academy will be that we may become better acquainted.—*Ralph H. McKee, Lake Forest University.*

I shall do what I can to further the interests of the organization.—*J. A. Udden, Augustana College.*

We believe such an academy will serve a useful purpose in bringing together the workers in the different schools and State bureaus, in encouraging beginners in science and in stimulating a healthy public interest in scientific work. We will be glad to take part in the formation of such an academy.—*Signed by forty members of the faculty, University of Illnois.*

I think there can be no doubt that a strong society can now be organized with every prospect for a useful career. I shall be pleased to contribute to the success of your plan in any way practicable.—*S. A. Forbes, University of Illinois.*

Dr. H. F. Bain, State Geologist, who has experienced the advantages of State Academies in Indiana and Iowa first suggested to me the desirability of such an organization for Illinois and will give it his hearty support. —[*Ed.*]

Something positive should be done to start the State Academy of Sciences. —*C. C. Adams, University of Chicago.*

Science and Geography in this institution heartily approve of your plan for a State Academy of Sciences, and wish you success in promoting the establishment of such an organization.—*Fred L. Charles, Northern Illinois State Normal.*

All men interested in science in this institution strongly favor your proposal.—*W. J. Sutherland, Western Illinois State Normal.*

I have often wished that there was such an association in our State.— *T. L. Hankinson, State Normal.*

I say by all means organize a State Academy of Sciences.—*R. R. Upton, Streator Township High School.*

I believe that such an organization would be beneficial and could develop a line of work not now properly cared for by any organization in the State. —*W. E. Andrews, Taylorville Township High School.*

This journal, its editor, and board of departmental editors are in full accord over the plan of forming a State Academy of Sciences for Illinois.— *C. H. Smith, editor "School Science and Mathematics."*

We are heartily in favor of such a movement and any date will suit us.— *L. L. McCreight, Principal Public Schools, Belleflower, Ill.*

The announcement that a movement is now on foot to organize a State Academy of Science is certainly a welcome one.—*G. A. Abbott, Chicago.*

I am fully in sympathy with the efforts you are making to organize an Academy of Science for Illinois, and shall always be ready to do what I can to support such an organization.—*W. A. Atwood, University, of Chicago,*

I hope your plan will succeed.—*C. B. Atwell, Northwestern University.*

Wishing this undertaking great success.—*G. Andreen, President Augustana College.*

I wish you all kinds of success in the enterprise.—*A. Bayliss, Principal State Normal School, Macomb.*

We will coöperate in any way possible.—*James Brown, Illinois College.*

I am in hearty sympathy with the project and I hope the new organization will prove a great success.—*Frank C. Baker, Chicago Academy of Sciences.*

The movement meets with my hearty approval, especially if it devotes itself to the encouragement of investigations of local interest.—*Wm. O. Beal, Illinois College.*

I sympathize fully with the undertaking and wish you every success with it.—*C. R. Barnes, University of Chicago.*

I believe thoroughly in the organization of a State Academy.—*J. M. Coulter, University of Chicago.*

I am heartily in favor of this move and desire to be enrolled a charter member.—*H. C. Cowles, University of Chicago.*

I heartily endorse the value of such an organization.—*C. B. Cory, Field Museum of Natural History.*

Hoping that the effect may be crowned with success.—*C. K. Carpenter, D. D., Aurora.*

I am in full sympathy with the plans for organizing the Academy of Science for Illinois.—*O. A. Caldwell, University of Chicago.*

The movement for the establishment of an Academy of Sciences in Illinois is a very excellent one.—*S. C. Clark, University of Illinois.*

I want McKendree represented.—*M. H. Chamberlin, President McKendree College.*

I certainly think that the progressive and highly cultured State of Illinois ought to organize and maintain a most excellent and prosperous Academy of Sciences. She certainly has the material for a successful institution of the kind in great abundance. Wishing your useful project abundant success.—*M. Dozier, Secretary Southern California Academy of Sciences.*

The cause is a worthy one and I hope may be effected.—*E. Davenport, Dean University of Illinois.*

I read with pleasure the idea of forming such an organization.—*J. J. Didcoct, Principal Bement Public Schools.*

I shall be glad to aid in any manner possible.— *C. C. Denney, Department of Science, Southern Illinois Teacher's Association.*

I believe this to be one of the most progressive movements ever undertaken in Illinois scientific circles.—*C. H. Elliott, Columbia University, New York.*

To be sure I am in favor of an academy of science for the State.—*J. H. Ferriss, Editor Joliet Daily News.*

A State Academy of Science appeals to me as a very appropriate organization and one which this State should have.—*U. S. Grant, Department of Geology, Northwestern University.*

I am heartily in sympathy with the move to establish an Academy of Sciences for Illinois.—*J. M. Evermann, Field Museum of Natural History.*

Much good might result from such an organization.—*P. M. Hoke, Superintendent Mt. Pulaski Public Schools.*

My whole heart is in the movement.—*S. B. Hood, Superintendent Sparta Public Schools.*

Shall be glad to aid in the organization in any way possible.—*E. O. Jordan, Memorial Institute for Infectious Diseases, Chicago.*

You may count on my best wishes and support.—*H. H. T. Jackson, Waukegan High School.*

I hope the meeting will result in a thorough organization of an academy and that great good will grow out of it.—*R. E. Hieronymus, President Eureka College.*

I hope your efforts will meet with success.—*L. Hektoen, Memorial Institute for Infectious Diseases, Chicago.*

I am in entire sympathy with the movement.—*W. K. Hill, Carthage College.*

There is no question as to the value and helpfulness of such an organization.—*C. P. Hulce, Superintendent City Schools, Spring Valley.*

I am most heartily in accord with your proposed plan of organizing a State Academy of Science.—*J. M. Markel, Superintendent Cambridge Public Schools.*

We are in hearty sympathy with the movement.—*C. F. Mills, Editor "The Farm Home," Springfield.*

I trust that one of the first advantages to be derived from the new Academy will be that we may become better acquainted.—*R. H. McKee, Lake Forest University.*

The movement has my hearty sympathy and I feel its success is assured. —*A. A. Michelson, University of Chicago.*

I feel that much might be accomplished in that way.—*J. Reynolds, Principal Thompson Public School.*

I should be very glad to have such an academy organized.—*Martha D. Rolfe, Champaign.*

I am thoroughly in sympathy with the movement.—*G. McP. Smith, University of Illinois.*

Shall be pleased to contribute anything I can toward its success.—*J. E. Snow, Assoc. Prof. of Elec. Engr., Armour Institute of Technology.*

Your suggestion as to the organization of a State Academy of Sciences is timely and important.—*Jesse L. Smith, Supt. of Schools, Highland Park.*

I am heartily in favor of the movement.—*A. Smith, University of Chicago.*

Perhaps it may have a mission in local scientific work that no other society has filled.—*Isabel S. Smith, Illinois College, Jacksonville.*

I think your idea an excellent one.—*E. Waller, Supt. of Schools, Viola.*

Wish you all success in your efforts to establish a State Academy of Science.—*C. O. Whitman, University of Chicago.*

I am much interested in the project.—*Stuart Weller, University of Chicago.*

Thus encouraged by these cordial endorsements of the proposition the following letter was sent October 12, to more than a thousand addresses and on October 25, a letter to the editors of the newspapers of the State with the hope of bringing the matter to the attention of every one in the State who might be interested in the plan.

AN ACADEMY OF SCIENCES FOR ILLINOIS.

October 12, 1907.

To the Men of Science in Illinois:

There is a widespread belief that our State should proceed to establish an Academy of Sciences. Ours is one of the few states in the middle west which is without such an institution.

1. Such an academy will furnish an efficient medium for reaching all the various scientific groups of the State when scientific matters of public interest and common welfare are to be presented.

2. At its meeting men of science throughout the State may interchange ideas and make the personal acquaintance of men working perhaps in other lines or of men known hitherto only by their writings.

3. Men of greater achievement and success will inevitably stimulate and encourage beginners and men of less attainments.

4. The important contributions to knowledge made by the scientific men of Illinois will be disseminated so that all of us may learn of the important researches, inventions, and applications which are being made by our fellow citizens.

More than one hundred men in different universities, colleges, normal and high schools, and museums have expressed their interest.

The academy should comprise every worker in science in the State, its roll being an almost complete scientific directory for Illinois.

You are invited to be present at a meeting which will be held for the organization of such an institution at Springfield, on Saturday the 7th of December, 1907.

The meeting will be held in the Senate chamber of the Capitol at 10:00 o'clock in the morning.

Very truly yours,

A. R. Crook,

Curator of Museum of Natural History.

October 25, 1907.

Dear Mr. Editor—In the interests of your readers will you not publish the enclosed circular? The notice should reach every person in the State who gives attention to any of the sciences.

The leaders of science in our universities and other educational institutions will take hold of the movement, but we want as well to have every high school boy, every collector and every business man who has a desire to know something of flowers or trees or birds or minerals, or other interesting and beautiful things in this big world in which we live, to know about the movement and to know that he is invited to take part in it.

Indiana, Michigan, Wisconsin, Iowa, Missouri, each of our neighbors has a State Academy of Sciences. Illinois should have one and a good one.

Science and the scientific spirit have contributed wonderfully to the success of the people of this State and nothing can do a community more good.

Will you not publish the notice and if possible write an editorial and thus place your readers and the cause of science under obligations to you? Thanking you, I am

Yours very truly,

A. R. Crook.

In response to this call an organization meeting was held December 7, in the Senate Chamber in Springfield. Before the meeting it seemed possible that the strongest men in scientific work in the State might possibly feel unable, because of the already heavy burdens which they were carrying, to take part in such a movement among their own people, and that the beginning and management of the academy might be left to those who were less well equipped to give the organization the standing to be desired. But when the company assembled it was evident that the men who had come together numbered among themselves many of the leaders in various sciences. More than one hundred people were present.

In the absence of the Governor, the Secretary of State in a few words extended welcome and the work of organization began. The following gives the order of the exercises:

PROGRAM.

10:00 A. M.

1. Call to order and election of chairman.
2. Address of Welcome, J. A. Rose, Secretary of State.
3. Advantage of a State Academy, Prof. T. C. Chamberlin, L. L. D., University of Chicago.
4. History of the former State Natural History Society, S. A. Forbes, Ph. D., State Entomologist.
5. Appointment of committees and other business.

2:00 P. M.

1. Report of committees.
2. Symposium (Ten minute addresses*) Outlook for Young Men in:
   Anthropology, W. J. McGee, L. L. D.
   Botany, John G. Coulter, Ph. D., Central Illinos State Normal.
   Chemistry, Wm. A. Noyes, Ph. D., University of Illinois.
   Geology, H. Foster Bain, Ph. D., State Geologist.
   Physics, Henry Crew, Ph. D., Northwestern University.
   Zoölogy, Herbert V. Neal, Ph. D., Knox College.

8:00 P. M.

Popular lecture in the arsenal, "Greater Steps in Human Progress," W. J. McGee, L. L. D., Director St. Louis Public Museum.

In the evening an informal dinner was participated in by about seventy-five persons.

The officers of the academy for the first year are as follows:

OFFICERS.

President—T. C. Chamberlin, University of Chicago, Chicago, Ill.
Vice President—Henry Crew, Northwestern University, Evanston, Ill.
Secretary—A. R. Crook, State Museum Natural History, Springfield, Ill.

* The speakers represent the University, the College, the Normal School, the Museum and the State Bureau.

Treasurer—J. C. Hessler, James Millikin University, Decatur, Ill.
The Council—President, Past President, Vice President, Chairman of each Section, Secretary, Treasurer.
Publication Committee—President, Secretary, H. Foster Bain.
Membership Committee—S. A. Forbes, T. W. Galloway, J. P. Magnusson, C. H. Smith, B. B. James.

The charter members number one hundred and fourteen. It is believed and hoped that the academy may aid in promoting scientific research, in diffusing scientific knowledge and in unifying scientific interests of the State.

At the meetings the contributions that are being made in various lines of scientific activity will be reported and discussed and it will be possible thus to obtain a succinct and continuous report upon the general scientific progress which is being made in our State, as a result of diligent and ofttimes brilliant work of our men of science. A report of this work should be accessible to every student and that it may be so the transactions of the academy should be published by the State and distributed freely to all who are in a position to make use of the information therein contained.

At the first regular meeting held at Decatur, February 22, 1908, the following program was presented:

MORNING PROGRAM.

9:00—Meeting of the Council and Standing Committees.
10:00—Morning Session.
1. Business of the Academy,
2. Presentation of Papers. (List in order of their receipt by Secretary.)

Biotic Zones and Districts of Illinois.....Charles A Hart,
A Case of Phosphorescence as a Mating Adaptation.....T. W. Galloway
Some Problems Connected with the Coals of Illinois.....S. W. Parr
The desirability of a Systematic Ecological Survey from the Standpoint of Plant and Animal Association.....H. C. Cowles
A State Ecological Survey.....E. N. Transeau
A Virgin Prairie in Illinois.....H. A. Gleason
Occurrences of Oil and Gas in Eastern Illinois.....H. Foster Bain
Illinois Trees.....T. J. Burrill
Plant Pathology in Its Relation to other Sciences.....Ernest J. Reynolds

AFTERNOON PROGRAM.

12:15—Luncheon and Social Hour at Y. M. C. A. Building.
2:00—Relation of State Academy to the Natural History Survey of the Chi-Academy of Sciences.....Frank C. Baker
Farm Water Supplies.....Edward Bartow
Symposium on "The Atmosphere," embracing the following among other aspects; origin and maintenance; chemical constitution and activity; physical phenomena; relations to animal and vegetable life; relations to human evolution and to mental and physical efficiency. *Open to all members. Those wishing to participate will inform the Secretary of the phase on which they will speak.*
6:00—Dinner in common for the extension of acquaintance.

EVENING PROGRAM.

7:30—Lecture—Complimentary to the citizens of Decatur. "Recent Advances in Spectroscopy," Prof. Albert A. Michelson, University of Chicago

Statement Concerning the Museum Sent to Gov. Charles S. Deneen, December 3, 1908.

The chief work accomplished in the State Museum of Natural History during the last two years has been along four different lines.

I. About twenty thousand specimens of fossils were moved from the basement of the State House to the Arsenal and are now in piles of drawers in the new room set aside for the library. They have all been washed and put in a condition for classification and cataloging. At present further work on them is at a standstill because of lack of space.

II. The small appropriation made by the last Legislature for the museum library has permitted the acquisition of a few rude wooden shelves and the purchase of a few new books. The whole library has been transferred to the new room and placed in order in the cases.

Reports, transactions and periodicals which have been coming to the library for years, have been arranged in order and an attempt has been made to complete the sets. In many cases it has been possible to obtain missing numbers, and in some cases the sets are complete to date. About eight hundred books have been bound. It seems that no catalogue of the library has been made within the last twenty-five years. A card system for cataloging has been installed and the work will be pushed forward as rapidly as possible. The library will be one of the best for working purposes along natural history lines in this part of the State.

III. Two annual courses of lectures on natural history have been given in the Arsenal. The lecturers were among the most distinguished men in their lines. Their services were gratuitous. The audiences numbered from several hundred to a thousand and were very appreciative. It appears to be especially desirable to continue these courses in the future but this year it has been impossible to do so, since there is no fund for even running expenses. A modest sum only is needed. The curator has given talks to classes of school children at the museum and has delivered eighteen lectures before various scientific and other societies.

IV. A State Academy of Science was organized. Its object is the promotion of investigation, diffusion of scientific knowledge and the unification of scientific interests in the State. Many of the strongest men of science in our various institutions are giving the State Academy enthusiastic support. Its present membership is three hundred and fifty.

NEEDS OF THE MUSEUM.

Some appropriation should be made for gradual additions to the collections and for cases but the greatest need is a

NEW BUILDING.

The present collections in the museum have been assembled at great expense (more than $100,000.00) and are of unusual value. In some

lines they are unsurpassed by any State collection in the country. The materials which should be found in the museum but are not, are numerous and of remarkable interest.

A wave of interest in museums is sweeping over the country. Our neighboring states have many of them museum buildings costing one or more hundred thousand dollars and other states are preparing to erect such buildings. The State of Illinois should have a fine building devoted to this purpose. A commodious and handsome structure such as should be erected could also care for the State Historical Library, the War Museum and possibly the State Library.